Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	**Follow on Standards Activities for IEEE 802.16a**
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Re:	Call for contributions for follow activities to 802.16a
Abstract	This contribution advocates extensions and follow on work for Nomadic and Pedestrian based on current 802.16 PHY and MAC with minimal modifications. The group should also develop a common MIB to be used by IEEE 802.16a subscriber units as a part of vendor interoperability.
Purpose	Per Abstract
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Follow on Standards Activities for IEEE 802.16a

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Introduction

The IEEE 802.16a PHY and MAC can be readily adapted for nomadic and pedestrian operation. Further the group should address a subscriber MIB as part of our efforts for vendor interoperability.

References

None

Proposal for Standards development of Nomadic and Pedestrian Portability Extensions to IEEE 802.16a

We propose that separate form the PAR activities for vehicular mobility which may involve significant changes to the PHY and MAC of IEEE 802.16a, a separate effort be conducted that specifically uses the IEEE 802.16a PHY and provides minor extensions to MAC in a short and efficient time table. The group should specifically focus on methods that have the greatest possible reuse of the current standard and minimize changes.

We recommend that group work on all areas simultaneously but approve extensions in a serial manner to quickly add the capability. The suggested order is:

1. Nomadic Capability:
    a. Within a sector of a specific coverage cell (simple reacquisition and is provided by the current IEEE 802.16a standard)
    b. Within cell but across sectors of a cell. This capability applies to AAS based systems
    c. Between cells/sectors in a system that has a higher level of connectivity
2. Pedestrian Portability:
    a. Within a cell/cell sectors
    b. Between cells in a system that has a higher level of connectivity

Clearly nomadic capability implies the MAC has a construct to terminate and reestablish connections with users. Rapid acquisition and automatic frequency search is required. But this is implied by the current 802.16a PHY/MAC. Through analysis and contribution of the group we can determine if any changes are actually necessary to support Nomadic capability.

Portability (pedestrian rates) requires additional efforts. Specifically:

1. What services can actually be provided in an IEEE 802.16 portable network
    a. Available bit rate / best efforts
    b. QoS applications such as voice, streaming media, two way video

2. Maintaining a logical network connection to a subscriber while handing off to a new Physical/Mac connection. This may involve MAC notification of failure of delivery and some type of store and forward to a mobility server.
3. Minimizing search (frequency channel) using some sort of nearest neighbor frequencies proved in MAP information. The goal here to make sure that handoffs and connection re-establishment take the minimum amount of time

Subscriber MIB information

A MIB structure should be established with two basic parts:
1. Common MIB elements
2. Private/Custom MIB elements

This will facilitate vendor interoperability. Vendors will address different market segments and capabilities. As such, Vendor ID and vendor specific MIB elements should be supported.